

Please replace the specification filed on August 17, 2001 with the substitute specification enclosed in **Appendix A**. A copy with markings to show changes made is enclosed herewith in **Appendix B**. Please retain drawing sheets as originally filed.

**In the Claims**

Amend claims 1-3, 5, 7, 12, 14 and 20, to read as follows:<sup>1</sup>

1. (Amended) An oligonucleotide which hybridizes to a non-transcribed spacer sequence between rRNA genes of an organism of the genus *Perkinsus* being assayed, wherein said organism of genus *Perkinsus* contains a nucleotide base sequence selected from the group consisting of the sequences of SEQ ID NOs. 1, 2, 3, and 18.
2. (Amended) A method of making an oligonucleotide for use in assaying a target organism of the genus *Perkinsus* comprising the steps of:
  - (i) extracting DNA from said target organism
  - (ii) isolating from said DNA a non-transcribed spacer sequence flanked by rRNA genes;
  - (iii) sequencing said non-transcribed spacer sequence; and
  - (iv) synthesizing and oligonucleotide having a nucleic acid sequence of SEQ ID NO. 18.
3. (Amended) A kit for determining the identity of species of a microorganism of the genus *Perkinsus*, comprising a container having outwardly directed PCR primer pairs to a nontranscribed spacer sequence flanked by rRNA genes, said primer pairs, having a nucleic acid sequence selected from the group consisting of sequences of SEQ ID NOs. 1, 2, 3, and 18.

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<sup>1</sup> Consistent with the requirements of 37 C.F.R. §1.121, a marked up version of the amended claims is contained in **Appendix C** hereof; a clean copy of all pending claims is contained in **Appendix D** hereof.

5. (Amended) The oligonucleotide of claim 4 wherein said nucleotide base of said organism sequence is SEQ ID NO. 18.
7. (Twice amended) The oligonucleotide of claim 6, wherein said nucleotide base sequence of said organism is SEQ ID NO. 2.
12. (Twice amended) The oligonucleotide of claim 9 wherein said PCR primers or complement thereof are selected from the group consisting of:

CAC TTG TAT TGT GAA GCA CCC (SEQ ID NO. 4)  
TTG GTG ACA TCT CCA AAT GAC (SEQ ID NO. 5)  
ATG CTA TGG TTG GTT GCG GAC C (SEQ ID NO. 6)  
GTA GCA AGC CGT AGA ACA GC (SEQ ID NO 7)  
AAG TCG AAT TGG AGG CGT GGT GAC (SEQ ID NO. 10)  
ATT GTG TAA CCA CCC CAG GC (SEQ ID NO. 11)  
TAG TAC CCG CTC ATT GTG G (SEQ ID NO. 20)  
TGC AAT GCT TGC GAG CT (SEQ ID NO. 21)  
AGT TGG ATT TCT GCC TTG GGC G (SEQ ID NO. 22)  
ACC AGG TCC AGA CAT AGG AAG G (SEQ ID NO. 24)

14. (Amended) The oligonucleotide of claim 1, wherein said nucleotide base sequence has type I and type II NTS sequences of (SEQ ID NOs. 24 and 25).

20. (Amended) The kit of claim 3 wherein said PCR primers pairs or complement thereof are selected from the group consisting of SEQ ID NO. 4, SEQ ID NO. 5, SEQ ID NO. 8, SEQ ID NO. 9, SEQ ID NO. 10, SEQ ID NO. 11, SEQ ID NO. 12, SEQ ID NO. 13, SEQ ID NO. 14, SEQ ID NO. 15 and SEQ ID NO. 19.

**REMARKS**